



# **A Survey on the Impact of Accounting Information System on Tasks Efficiency: Evidence from Malaysian Public Sector Agencies**

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## **ABSTRACT**

The purpose of the study is to assess the impact of accounting information system (AIS) on the users' tasks efficiency. The tasks efficiency is an important construct for measuring system success or effectiveness. It is because an effective system would assist and support users in performing their tasks efficiently. In the study, AIS is referred to the computerized AIS, which was developed for facilitating organizations to gather, store and disseminate data for the purpose of planning, controlling, coordination, analysis and decision-making. The study was conducted using a set of questionnaire distributed to the users of AIS in selected Malaysian public sector agencies. The findings led to the conclusion that the current AIS used has significant impact on their tasks efficiency on the typical processes related to budgeting, financial reporting, auditing and financial controlling in the agencies.

**Keywords:** Tasks Efficiency, Accounting Information System, Public Sector Agencies

**JEL Classification:** M3

## **1. INTRODUCTION**

Accounting is a service function that seeks to provide users with quantitative information (Dalci and Tanis, 2002). Accounting, being a special information system, should reveal the real picture of enterprise capital increase, sources of income and added value formation, approaches for revenue and profit distribution, and scope of consumption and storage (Salehi et al., 2010). In today's competitive world, as a key resource in accounting and financial information processing (Salehi et al., 2010), information technology (IT) has become a tool to produce accurate, reliable and timely information through the development of information system (Elpez and Fink, 2006) in both the public and private sectors. The presence of IT has radically transformed the manner in which business is conducted across the world and alerted us to the many challenges that lay ahead (Hunton, 2002). The use of IT in accounting disciplines also endeavors to disseminate reliable and timely information to decision-makers, and advance

understanding with respect to managing business knowledge throughout the organization while simultaneously maintaining effective internal controls (Hunton, 2002). To accomplish the accounting objectives, usually a suitable accounting information system (AIS) is designed (Dalci and Tanis, 2002) and used in most companies and organizations to perform the required activities and tasks more efficiently and effectively.

With the use of IT in the accounting discipline, automating the traditional accounting tasks may provide public assurance regarding the extent to which financial statements fairly reflect the financial position of the organization and that the information communication technology (ICT) infrastructure is reliable (Hunton, 2002). As a consequence, all source documents and accounting records exist in digital form instead of on paper in an electronic accounting system (Gullkvist, 2003). Traditional government accounting systems and budgeting systems are no longer able to provide the information that is required for

an efficient and effective government (Ouda, 2003). Thus, the implementation of IT in AISs and applications has broadened its function to meet the information needs of all interest groups (Surmen and Dastan, 2007). The system must be able to handle and communicate all the financial movements for the complex structure made up of line ministries, spending agencies, regional and local governments as well as other government clients (Rodin-Brown, 2008). The technology emphasizes the strategic control of aggregate spending and priority setting, and the facilitation of greater efficiency and effectiveness through the delegation of management authority, which will result in the changes to management, accounting and budgeting for a more efficient and effective government (Ouda, 2003). Other implications that may arise from the technology are an increase in the productivity of the employees, the improvement of the decision-making process as well as an increase in the performance (Dumitru et al., 2008).

In the 21<sup>st</sup> century, the development of IT has important implications for the accounting profession, and, in particular, accounting practices (Jackling and Spraakman, 2006). The AISs and accounting applications (i.e. concept, scope and operation), such as, preparing financial statements and tax statements, planning, consultancy and auditing, have changed (Surmen and Dastan, 2007), and happen to be different from traditional accounting. The traditional AIS can only generate financial statements afforded to the financial executive with less accounting information, which make the use objects become narrow (Salehi et al., 2010). This also causes problems, such as wrong data entry, inefficient performance of tasks and the massive utilization of paper products (Kharuddin et al., 2010). In comparison to the manual system, computerization has enabled the tedious task of manual bookkeeping to be substantially eliminated through the implementation of computerized accounting (Aziz, 2003), which produces a number of organizational benefits (Heeks, 1998)<sup>1</sup>.

With the large investments in IT over many years, however, it seems that the benefits of a good computerized AIS are not widely known or visible; hence, it is both useful and interesting to further investigate the subject (Gullkvist, 2003). Therefore, during the early 2000s, more studies focused on the benefits or impacts of IS or IT on the individual impact or organizational impact, as well as, specifically, in relation to the accounting impact (Spathis and Ananiadis, 2005; Spathis, 2006; Booth et al., 2000; Gullkvist, 2003; Jackling and Spraakman, 2006; Alves, 2010a, 2010b). The unique features of IT capabilities have led to the introduction of various information systems, such as AIS, manufacturing resource planning system, human resource system (Kharuddin et al., 2010) and enterprise resource planning system (ERPS). As a result, accounting researchers started to focus on specific types of IT application, such as the impact of ERPS on accounting practices or management accounting.

<sup>1</sup> He stated that the benefits are faster decision-making and control through the provision of timely information; better decision-making and control through the provision of relevant information; improved job satisfaction for public servants; and a reduction in the number of paper records that need to be held (p.13).

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### 2.1. Benefits of Effective Public Financial Management (PFM) System

Public sectors are entities owned and/or controlled by government, including government departments, ministries, agencies, statutory bodies and public enterprises (United Nations, 2003). They are accountable to the electorate, and to the society in general, not only for financial management but for national security, education, justice and the spiritual wellbeing of the people (Mahdavi and Funnell, 2003). In Malaysia, the government sectors have a pivotal role in creating a conducive and vibrant economic environment; to facilitate growth and the competitiveness of the industry and the private sector; to support the country's manpower needs; and to enhance the quality of life of Malaysian citizens (MAMPU, 2003). In the meantime, they are also responsible to provide as much as information as needed to give a clear picture of public resources management and their accountability in managing public resources.

At present, many countries in both developed and developing countries are making important and impressive achievements in strengthening the government accounting systems, known as PFM (ACCA, 2010). PFM systems are at the forefront of public financial reform as they provide improved governance and better management of risk (ICGFM, 2008). They include a legal and organizational framework for supervising all phases of the budget cycle, including the preparation of the budget, internal control and audit, procurement, monitoring and reporting arrangements, and external audit. The broad objectives of PFM are to achieve overall fiscal discipline, the allocation of resources to priority needs, and efficient and effective allocation of public services (Asare, 2009).

The benefits of an effective and efficient system include an improved service to citizens through improved decentralization; a reduction in bureaucracy and better access to information; improved citizen confidence through increased transparency; improved predictability in budget execution; better monitoring and evaluation to reduce fraud and corruption; increased government revenue through improved collections; reduced costs through improved expenditure control leading to reduced borrowing and debt cancellation; and improved decision-making and planning through better access to accurate and timely information (ACCA, 2010). According to the Secretariat (2005), efficient PFM is central to secure long-term economic success, to maximize the efficient use of limited public resources, to create the highest level of transparency and accountability in government finances, and, most importantly, to generate more and better services for the citizens of the country. A weak government financial management system can cause many problems to the organizations. For instance, in Pakistan, the government faced serious deficiencies in financial data, systems and staff skills, which resulted in unreliable planning, budgeting and reporting, and ineffective internal controls. There were also unreliable cash, asset and debt positions, unknown commitments/obligations, not kept up to date pensions and depreciation records, which caused uneven resource allocation in

spending and contributed to weak governance and accountability (ACCA, 2010). In Botswana, a number of challenges were identified, which required them to update the legislation supporting PFM and strengthen the capacity of the offices of the auditor general and accountant general, which were caused by the lack of control in the newly computerized accounting and budgeting systems, out of date accounting processes and ledgers, and an inadequate cash accounting system used by the government ministries and local authorities (ACCA, 2010).

Public sector financial management might require improvement for various reasons: (1) Public sector financial management reforms lag behind those in the private sector; (2) skills deficit and retention issues; (3) losses and waste in the public sector; (4) the need to improve accountability and transparency over public spending for the general public and tax payer; (5) weak resource allocation; (6) serious deficiencies in financial data and budget reporting; (7) accounting and auditing systems are antiquated; (8) a need to comply with internationally accepted accounting practice; (9) a need to strengthen governance in a developing country; (10) a need to improve efficiency and effectiveness in service delivery; and (11) legislative framework is weak (ACCA, 2010).

Dener et al. (2011) studied the impacts of government financial management on efficiency, fiscal outcomes and quality of budgeting in some countries. For instance, in Mongolia, they found that due to inconsistencies between budget classification and the system chart of accounts, and the lack of adequate data for budget entities, the system was not used for all accounting needs and not used as the only reporting tool. Therefore, the system capabilities of the country were enhanced to improve the management of public resources, enhance budgetary controls and strengthen fiscal discipline. In Turkey, the findings were adequate preparation and realistic system design, a focus on technical capacity building and the assessment of ICT management and public investment programme, support decentralization of budget execution, improve the efficiency of civil service spending, and consolidate public sector accounting reform (Dener et al., 2011). Another study by Mahdavi and Funnell (2003) studied the present AIS in Iran's general government sector. They found that the system and public resource management in the sector were inadequate to ensure the fulfillment of government plans aimed at a more effective utilization of Iran's public resources. This means that the system was not capable of providing the information needed by the managers in the sector in measuring and costing public sector services and goods. The inadequate information caused ineffective control over all government funds and properties, thus it could not accomplish the goals of the public financial programme of the nation.

Since many developing countries continue to grapple with the problem of a weak and virtually ineffective accountability system (Siddiquee, 2005), effective PFM has a vital role in evaluating the transparency, accountability and performance of each agency. According to Parry (2010), financial information is important for government transparency, which includes all published budgets, financial statements and audit reports, as well as other financial information published by the government. Therefore, PFM must

have clear inbuilt assumptions about exactly how accountability will work, and will need to be progressively redesigned as accountability improves, which has a profound effect on the design of the budget preparation, execution and accounting systems (Parry, 2010). However, with the tremendous transformation in PFM, it has resulted in some changes to the system of PSAs in order to enhance the effectiveness and transparency of public resource management by computerizing the budget management and accounting system (Chene, 2009).

All levels of government can benefit from an effective accounting and reporting system, such as sound medium term expenditure frameworks; solid cash and debt management, as well as commitment control; and a reliable basis for audit (IFAC, 2011). As a part of accountability, it is also necessary to publish audited financial statements of public sector agencies for the period (Saleh and Pendlebury, 2006) to provide accurate financial information to support decisions and ensure effective resource allocations (ACCA, 2010).

## 2.2. IT and Tasks Efficiency

The use of modern technology influences how a task is performed and what the outcome might be (Torkzadeh et al., 2005). In the IT environment, the outcome perspective calls for performance-related evaluations that focus on outcomes in order to create stronger and more meaningful relationships between IT adoption and performance outcomes (Elbashir et al., 2008). Performance outcome is defined as a measurement of agency performance in relation to the quality, quantity, timeliness and cost of outputs (Hoque and Adams, 2008), which can be measured by the impact of technology, such as on work (Torkzadeh et al., 2005), job (Sun and Fricke, 2009) or task. In performing tasks, the use of the modern technology has proven to be an important tool for cost-effectively performing routine information processing tasks, particularly in finance-related functions, thus reducing the need for clerical staff (Shin, 1982). Originally, the goal of IS/IT was to have a positive impact on jobs or task performance (Sun and Fricke, 2009) or to build performance to ensure that the computer systems are able to accomplish specific objectives or tasks (Stone et al., 2007). Therefore, the impact on tasks refers to the extent to which information can influence and modify the tasks that are executed by the users (Agourram, 2009) or relate to the accomplishment of a portfolio task by an individual (Goodhue and Thompson, 1995).

Task performance may be operationalized from multiple standpoints, including the efficiency, effectiveness, output quantity and/or quality, or timeliness of the action taken depending on the level of analysis being conducted (Mauldin and Ruchala, 1999), while higher performance implies some mix of improved efficiency, effectiveness and higher quality (Goodhue and Thompson, 1995). However, it appears that it is important to understand the tasks the organization expects the technology to accomplish (Stone et al., 2007). Being aware of the importance of IT effectiveness on the task performed, a number of studies have attempted to examine the impact of a specific IT/IS system on tasks efficiency by using different approaches to evaluate how far the current system has met the objectives of the system adoption and increased the tasks efficiency (Agourram, 2009; Alves, 2010;



Aziz, 2003; Chang et al., 2003; Goodhue and Thompson, 1995; Madapusi and Ortiz, 2009; Molanazari and Abdolkarimi, 2010; Torkezadeh et al., 2005).

With the utilization of technology for completing tasks, task-system fit should be one important determinant of whether a system is considered to be more useful, more important, or give more relative advantage. As a result, in measuring task performance outcomes, a few studies considered task technology fit as a tool that may increase the task performed by the system. Task technology fit relates to how well the functionalities of the technology fit the needs and requirements of the users (Masrek et al., 2007). For instance, Goodhue and Thompson (1995) focused on task-system fit by determining the correspondence between task requirements, individual abilities, the functionality of the technology, and the interactions among the task, technology and the individual. They defined "task-system fit" as the degree to which an information system assists an individual in performing their tasks. For a positive impact of IT on user performance, there should be a good fit between the IT and user's task (Goodhue and Thompson, 1995). If a gap exists between the requirements of a task and the functionalities of the technology, the task-system fit is reduced.

A system with higher task-system fit will lead to better performance since it more closely meets the task needs of the individual. They concluded that greater task/system fit would lead to improved performance as needed by the individual. However, from the auditing perspective, Banker et al. (2002) analyzed task-technology fit with audit professionals' tasks in three aspects: In supporting audit decision-making, fulfilling the requirements of routine operations in audit engagements and fitting the business needs. However, Jain and Kanungo (2006) believed that the higher the degree of fit between the technology functionalities and the requirements of the user's tasks, the higher the probability that technology will be used and make a significant contribution to accomplish certain or specific individual tasks. Thus, reliable and accurate accounting information can be used as an important criterion in determining system fit to task characteristics in facilitating decision-making (Molanazari and Abdolkarimi, 2010).

Different systems have different impacts on tasks. Therefore, it is important to understand the specific tasks or objectives the organization expects the system to accomplish to meet the needs of the users (Stone and Good, 2002), as well as the organization. In professional fields, such as accounting, the impact of the system on the accounting task should be broadened because accounting, in its broad sense, includes not only accounting itself but also the analysis of economic performance, management control and internal audit (Salehi et al., 2010). Therefore, the tasks performance is defined as the capability of the system to perform specific accounting-related tasks with explicit outcomes or impacts in major accounting areas, such as financial accounting (i.e., financial reporting), management accounting (i.e. budgeting), auditing, taxation and controlling. The effective system will help the users to perform all the tasks efficiently and effectively. With the use of networks and digital information, it will redesign accounting and finance processes and workflows by automating

the accounting and financial data (Deshmukh, 2006), which is believed may increase the performance of the tasks performed. As accounting and IT are inseparable in practice (Alves, 2010; Granlund, 2009), it is obvious that due to the developments in computing and networking technologies routine accounting tasks have greatly changed (Deshmukh, 2006). Therefore, as a tool for solving accounting problems, it is important to measure the impact of IT (i.e., AIS) on task performance in conjunction with task achievements or tasks efficiency in sub-disciplines of accounting (Mauldin and Ruchala, 1999) such as budgeting, accounting and reporting, auditing and financial controlling.

In marketing for instance, Stone et al. (2007) found a significantly positive relationship between the tasks performed and perceived individual performance impacts. This suggests that as the ability of IT to perform tasks for the marketer escalates individual performance, and, ultimately, organizational performance improves. They also added that it is important to understand the specific tasks or objectives the organization expects the system to accomplish to meet the needs of the marketers (Stone and Good, 2002). As the role of IT is increasing in PSAs for public budgeting and financial management purposes across the country (Shin, 1982), it is expected that with the adoption of computerized AIS, there will be an improvement in tasks efficiency. The higher the degree of fit between the technology functionalities and the requirements of the user's tasks, the higher the probability that technology will be used effectively (Jain and Kanungo, 2006). From this standpoint, it is expected that with the computerized AIS adoption, there will be an improvement in tasks efficiency as expressed in the hypotheses below:

$H_0$ : AIS has no significant relationship on tasks efficiency.

$H_1$ : AIS has a significant relationship on tasks efficiency.

$H_{1a}$ : AIS has a significant relationship on budgeting task efficiency.

$H_{1b}$ : AIS has a significant relationship on accounting and reporting task efficiency.

$H_{1c}$ : AIS has a significant relationship on auditing task efficiency.

$H_{1d}$ : AIS has a significant relationship on controlling task efficiency.

### 3. METHODOLOGY

This study employs a questionnaire-based survey for the data collection and structural equation modeling (SEM) as its tool for data analysis. A total of 643 questionnaires were distributed and 399 were collected, resulting in a response rate of 62%, which involved 68 ministries, departments and agencies in total. Out of the 399 questionnaires, 374 samples were usable, with a response rate of 58%. About 25 responses or 6% of collected questionnaires were rejected or discarded due to incomplete information and errors of partial response.

The study performed preliminary analysis and SEM. In the preliminary analysis, some analyses involving reliability and validity, data management and descriptive statistics were performed. The SEM involving exploratory and confirmatory factor analysis was conducted to identify the most related factors to the performance outcomes and complementary factors. After

conducting the factor analyses, the hypotheses proposed in the study were tested using the SEM by AMOS.

## 4. FINDINGS AND DISCUSSION

### 4.1. Demographic Background Information

This section describes the demographic information of the respondents in order to highlight the important characteristics of the respondents that may aid the understanding and build useful correlations with other survey findings. The details of the demographic characteristics of the respondents are presented in Table 1.

### 4.2. Construct Reliability and Validity

Reliability is defined as the extent to which a variable or set of variables is consistent with what it is intended to measure (Hair et al., 2009). The internal consistency can be measured by three major methods, Cronbach's alpha, split-half technique (Ho, 2006; Sekaran and Bougie, 2010) and item analysis (Ho, 2006). However, the Cronbach's alpha is an adequate test of internal consistency and reliability in most cases (Sekaran and Bougie, 2010). Cronbach's alpha is an average of all the correlation coefficients of the item within a test (Ho, 2006) with a value between 0 and 1. High Cronbach's alpha values indicate high internal consistency of the multiple items measuring each construct and thus ensures high reliability of the individual constructs (Spathis and Ananiadis, 2005). The Cronbach's alpha value should be at least 0.7 (Francis,

2004), while a value of 0.8 or over indicates an acceptable level of reliability (Bryman and Cramer, 1990). Accordingly, the Cronbach's alpha for each of the variables in the study was measured to assess its internal consistency and reliability.

Construct validity is based on the actual findings of statistical analysis in assessing the accuracy of the measure (Nardi, 2003). The validity testifies how well the results obtained from the use of the measure fit the theories around which the test is designed (Sekaran, 2003). There are two essential tests for assessing construct validity: Convergent (related) validity tests and discriminant (unrelated) validity tests (Hair et al., 2003; Sekaran, 2003). Convergent validity is established when the scores obtained with two different instruments measuring the same concepts are highly correlated. Discriminant validity is established when two variables are predicted to be uncorrelated based on theory and the scores obtained by measuring them are indeed empirically found to be so (Sekaran, 2003). The convergent validity and discriminant validity can be measured by calculating composite reliability and average variance extracted as shown in Table 2.

### 4.3. The Impact of AIS on Tasks Efficiency

In overall, the result showed that the respondents perceived that the most significant impact of the current accounting system was on accounting and reporting task efficiency (mean = 3.94), followed by controlling task performance efficiency (mean = 3.91). However, the auditing task efficiency had less impact (mean = 3.79) compared to the budgeting task performance efficiency (mean = 3.83). As the AIS was designed to meet the needs of budgeting, accounting, reporting, auditing and internal control, the results suggested that, in general, the objectives of the system have been met and that current system adoption does contribute to effective overall accounting tasks efficiency. The results of the survey showed that a number of benefits derived from the system had significantly contributed towards increased accuracy and timely reporting and auditing. Consequently, the empirical results available from the study might help the public sector agencies to establish the best way forward in fully exploiting the potential of the system as an innovative and successful tool in PFM.

The respondents were asked to answer eight questions about their perceptions of the impact of the AIS on the budgeting task efficiency. The results indicated that 63.9% of the respondents perceived that the system had significantly impacted on the budgeting task efficiency by making it much easier to collect information about targets and performance in all areas of budgeting (mean = 3.98) and to make estimates about projects, activities and programmes for the future (mean = 3.87). The survey also revealed that the respondents believed that the adoption of the system had provided greater comprehension and transparency of information and enhanced confidence and credibility of the whole budget process (mean = 3.86), had also improved the efficiency of preparing a yearly budget (mean = 3.75) and planning/budgeting for the future (mean = 3.85) and had also provided timely and accurate data for budget management and decision-making in order to improve budget planning and execution (mean = 3.82). The respondents also agreed that the system had substantially

**Table 1: Demographic information (n=374)**

Demographic information	Frequency (%)
Gender	
Female	273 (73.0)
Male	101 (27.0)
Age	
20-30	174 (46.5)
31-40	111 (29.7)
Above 41	89 (23.8)
Current position	
CEO/CFO	8 (2.1)
Senior accountant	50 (13.4)
Senior auditor	3 (0.8)
Staff accountant	211 (56.4)
Other	102 (27.3)
Education background	
Yes	307 (82.1)
No	67 (17.9)
Academic qualification	
Master	26 (7.0)
Bachelor	159 (42.5)
Diploma	117 (31.3)
Other	72 (19.3)
Experience in current position (years)	
0-1	45 (12.0)
1-5	169 (45.2)
6-10	59 (15.8)
10-15	35 (9.4)
More than 15	66 (17.6)
Professional qualification	
Yes	71 (19.0)
No	303 (81.0)

**Table 2: The result of reliability and validity**

Construct	Mean	Actual range	Factor loadings	Cronbach's alpha	AVE	CR
Accounting system effectiveness	3.89	3.79-3.95	0.565-0.666	0.853	0.72	0.94
Budgeting task efficiency	3.83	3.75-3.98	0.580-0.702	0.853	0.68	0.93
Accounting and reporting task efficiency	3.94	3.84-4.19	0.518-0.703	0.889	0.70	0.95
Auditing task efficiency	3.79	3.72-3.87	0.683-0.814	0.874	0.74	0.94
Controlling task efficiency	3.91	3.79-4.02	0.585-0.759	0.828	0.70	0.92

CR: Composite reliability, AVE: Average variance extracted

changed the nature of budgeting exercises (mean = 3.62) in public sector agencies.

In assessing the current AIS impact on the accounting and reporting task efficiency, the respondents were asked to indicate to what extent they agreed or disagreed with some important criteria for determining if the system had any impact on the task efficiency. A large majority of them totally agreed that the system did impact on the accounting and reporting tasks by improving the way they record or process the government financial transactions (mean = 4.19). The system also improved the effectiveness of public sector reporting (mean = 4.00), strengthened the financial controls of their organizations (mean = 3.98), provided some information about the sources, allocation and uses of financial resources (mean = 3.93) and provided some information to assess the level of performance of any department or programme (mean = 3.93). They also agreed that the system had provided sufficient information for the evaluation of financial position (mean = 3.90), for external reporting (mean = 3.89), for management decision-making (mean = 3.84) and for departmental resource allocation decisions (mean = 3.84).

For the impact of AIS on auditing task efficiency, the respondents were required to indicate to what extent they agreed with the impact of the system on the auditing task performance outcomes within their organizations. It seemed that most of them completely agreed that the system had expedited the auditing process/trail (mean = 3.87) and provided easier access to all relevant audit information (mean = 3.81). The system also seemed to have a significant impact on the auditor's work efficiency (mean = 3.79) and audit effectiveness (mean = 3.78). However, the system had less impact in reducing the audit processing time (mean = 3.75) and in improving the efficiency and professionalism of auditors.

In the area of financial control task efficiency, the respondents were required to indicate their acceptance level on some highlighted criteria. From their responses, it was found that most agreed that the system provides up to date data and online information regarding cash position and financial and operational performance that might help the organization to control their financial situation in a timely and effective manner (mean = 4.02). Most of them also agreed that the system processed other transactions and the closing of their organizations' accounts faster (mean = 3.97), increased the ability of their organizations to undertake central control or monitoring all expenditures or receipts (mean = 3.95), eliminated the duplication of some information in their organizations (mean = 3.79) and impacted on the firm's management accounting and control system (mean = 3.82).

The empirical findings suggested that the current system is directly impact on the tasks efficiency. It seems that the current system may improve the effectiveness and efficiency of financial administration processes and also improve accounting systems and practices in the public sector agencies. All the hypotheses are supported with positive and significant relationships at a significance level of 0.01 (Table 3). The path coefficients for the relationships between AIS effectiveness (*aiseff*) with budgeting task efficiency (*budtask*), accounting and reporting task efficiency (*acctask*), auditing task efficiency (*audtask*) and controlling task efficiency (*ctrtask*) were 0.64, 0.73, 0.59 and 0.74, respectively (Table 4). It shows that AIS effectiveness (*aiseff*) has the most impact on accounting and reporting task efficiency (*acctask*) followed by controlling task efficiency (*ctrtask*), budgeting task efficiency (*budtask*) and auditing task efficiency (*audtask*). The impact of AIS effectiveness (*aiseff*) on budgeting task efficiency (*budtask*) proves that the budgeting process becomes more systematic and efficient, as discovered by Jackling and Spraakman (2006) whereas the functionality of budgeting has greatly increased by moving from spreadsheets to integrated budget models. For the auditing task efficiency (*audtask*), the result is in line with Veerankutty (2009) who found that the existence of new systems may play a role in the evaluations of public sector auditors. Sajady et al. (2008) also indicated that AIS s would lead to better internal control systems, improvement of the quality of the financial reports and facilitate the process of the company's transactions. Thus, the findings help to provide a deeper understanding of the impact of accounting system effectiveness (*aiseff*) on the overall accounting-related tasks efficiency (*task*).

## 5. CONCLUSION

The deployment of IT have different impacts on how tasks are performed. The purpose of IT deployment is to have a positive impact on jobs performed in order to meet particular objectives. Therefore, the present study was carried out to see the impact of the current accounting system on the major accounting areas, such as financial accounting (i.e. financial reporting), management accounting (i.e. budgeting), auditing and financial control. Based on the findings of the study, it was demonstrated that the AIS effectiveness does impact on the tasks efficiency in general, such as budgeting task, accounting and reporting task, auditing and controlling task.

The findings supported the evidence from Salehi et al. (2010), and Sajady et al. (2008) in that the use of the AIS has led to the improvement in the quality of the financial statement, effective internal control and the communication of the financial information. It seems that the objectives of the system to accomplish specific



**Table 3: Hypotheses testing results**

Hypothesis*	Correlations	Path coefficient	P value	Decision
H <sub>1</sub>	<i>task</i> <--- <i>aiseff</i>	0.84	0.000	Accepted
H <sub>1a</sub>	<i>budtask</i> <--- <i>task</i>	0.76	0.000	Accepted
H <sub>1b</sub>	<i>acctask</i> <--- <i>task</i>	0.87	0.000	Accepted
H <sub>1c</sub>	<i>audtask</i> <--- <i>task</i>	0.70	0.000	Accepted
H <sub>1d</sub>	<i>ctrtask</i> <--- <i>task</i>	0.88	0.000	Accepted

\*P value is statistically significant at the 0.01 level (two-tailed)

**Table 4: Total effects of the relationships**

Relationships	Total effects
<i>aiseff</i> → <i>task</i> → <i>budtask</i>	0.84*0.76=0.64
<i>aiseff</i> → <i>task</i> → <i>acctask</i>	0.84*0.87=0.73
<i>aiseff</i> → <i>task</i> → <i>audtask</i>	0.84*0.70=0.59
<i>aiseff</i> → <i>task</i> → <i>ctrtask</i>	0.84*0.88=0.74

tasks has been met as indicated in the results and also has a capability to support planning, budgeting, accounting, reporting, evaluation and performance elements.

## REFERENCES

- ACCA. (2010), Improving public sector financial management in developing countries and emerging economies. Accountants for Business, 1-29.
- Agouram, H. (2009), Defining information system success in Germany. *International Journal of Information Management*, 29, 129-137.
- Alves, M.D.C. (2010), Information technology roles in accounting tasks - A multiple-case study. *International Journal of Trade, Economics and Finance*, 1(1), 103-107.
- Alves, M.D.C. (2010), Information technology use and accountants satisfaction - A survey of manufacturing firms. Paper Presented at the 2<sup>nd</sup> International Conference on Advanced Computer Control (ICACC), Shenyang, China.
- Asare, T. (2009), Internal auditing in the public sector: Promoting good governance and performance improvement. *International Journal on Governmental Financial Management*, 9(1), 15-28.
- Aziz, K. (2003), Accounting information system satisfaction and job satisfaction among Malaysian accountants. Paper Presented at the 7<sup>th</sup> Pacific Asia Conference on Information Systems (PACIS), Adelaide, Australia.
- Banker, R.D., Chang, H., Kao, Y.C. (2002), Impact of information technology on public accounting firm productivity. *Journal of Information Systems*, 16(2), 209-222.
- Booth, P., Matolcsy, Z., Wieder, B. (2000), The impacts of enterprise resource planning systems on accounting practice: The Australian experience. *Australian Accounting Review*, 10(3), 4-18.
- Bryman, A., Cramer, D. (1990), *Quantitative Data Analysis for Social Scientists*. London: Routledge.
- Chang, R.D., Chang, Y.W., Paper, D. (2003), The effect of task uncertainty, decentralization and AIS characteristics on the performance of AIS: An empirical case in Taiwan. *Journal Information and Management*, 40(7), 691-703.
- Chene, M. (2009), The implementation of integrated financial information management systems (IFMIS): Transparency International, 2(1), 23-79.
- Dalci, I., Tanis, V.N. (2002), Benefits of computerized accounting information systems on the JIT production systems. *Review of Social, Economic and Business Studies*, 2, 45-64.
- Dener, C., Watkins, J.A., Dorotinsky, W.L. (2011), A World Bank Study: Financial Management Information System. Washington, DC: World Bank.
- Deshmukh, A. (2006), A framework for digital accounting. In: Potter, M., editor. *Digital Accounting: The Effects of the Internet and ERP on Accounting*. Ch. 1. Hershey, PA: Idea Group Inc. p394.
- Dumitru, V.F., Glăvan, E.M., Dumitru, M., Glăvan, N. (2008), The Impact of Information Technologies on the Performance of the Financial-Accounting Department of the Company: CNMP.
- Elbashir, M.Z., Collier, P.A., Davern, M.J. (2008), Measuring the effects of business intelligence systems: The relationship between business process and organizational performance. *International Journal of Accounting Information Systems*, 9, 135-153.
- Elpez, I., Fink, D. (2006), Information systems success in the public sector: Stakeholders' perspectives and emerging alignment model. *Issues in Informing Science and Information Technology*, 3, 219-231.
- Francis, G. (2004), *Introduction to SPSS for WINDOWS: Versions 12.0 & 11.0 with Notes for Student Ware*. New South Wales, Australia: Pearson Education Australia.
- Goodhue, D.L., Thompson, R.L. (1995), Task-technology fit and individual performance. *MIS Quarterly*, 19(2), 213-236.
- Granlund, M. (2009), On the interface between accounting and modern information technology, A-13. Turku: Turku School of Economics.
- Gullkvist, B. (2003), Adoption and impact of e-accounting. Paper Presented at the e-Business Research Forum (eBRF), Tampere, Finland.
- Hair, J.F.Jr., Babin, B., Money, A.H., Samouel, P. (2003), *Essentials of Business Research Methods*. United States of America: John Wiley & Sons, Inc.
- Hair, J.F.Jr., Black, W.C., Babin, B.J., Anderson, R.E. (2009), *Multivariate Data Analysis: A Global Perspective*. 7<sup>th</sup> ed. Upper Saddle River, New Jersey: Pearson.
- Heeks, R. (1998), *Public Sector Management Information Systems*. Manchester, United Kingdom: Institute for Development Policy and Management.
- Ho, R. (2006), *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*. Florida, United States of America: Chapman & Hall.
- Hoque, Z., Adams, C. (2008), Measuring public sector performance: A study of government departments in Australia. Available from: <http://www.cpaaustralia.com.au/cps/rde/xbcr/cpa-site/measuring-public-sector-performance-study.pdf>.
- Hunton, J.E. (2002), Blending information and communication technology with accounting research. *Accounting Horizons*, 16(1), 55-67.
- ICGFM. (2008), Use of Financial Management Information Systems (FMIS) to improve financial management and accountability in the public sector. *International Journal on Governmental Financial Management*, 8(2), 162-173.
- IFAC. (2011), *Handbook of International Public Sector Accounting Pronouncements*. Vol. 1. New York, USA: International Federation of Accountants.
- Jackling, B., Spraakman, G. (2006), The impact of enterprise resource planning systems on management accounting: An Australian study. Paper Presented at the International Conference on Accounting and Finance in Transition (ICAFIT), Adelaide, Australia.
- Jain, V., Kanungo, S. (2006), Performance impacts of IS at the individual level: An integrated model. Paper Presented at the 14<sup>th</sup> European Conference on Information Systems (ECIS), Gothenburg, Sweden.
- Kharuddin, S., Ashari, Z.M., Nassir, A.M. (2010), Information systems and firm's performance: The case of Malaysian small medium enterprises. *Canadian Center of Science and Education*, 3(4), 28-35.
- Madapusi, A., Ortiz, D.C. (2009), An empirical assessment of the impact of ERP task-technology fit on decision quality. Paper Presented at

- the 40<sup>th</sup> Southwest Decision Sciences Institute (SWDSI) Conference, Oklahoma City, Oklahoma.
- Mahdavi, G., Funnell, W. (2003), Public sector accountability and accounting information systems in the Islamic Republic of Iran. *Iranian Journal of Information Science and Technology*, 1(2), 32-45.
- MAMPU. (2003), The Malaysian Public Sector ICT Strategic Plan. Putrajaya: Prime Minister's Department.
- Masrek, M.N., Karim, N.S.A., Hussein, R. (2007), Investigating corporate intranet effectiveness: A conceptual framework. *Information Management and Computer Security*, 15(3), 168-183.
- Mauldin, E.G., Ruchala, L.V. (1999), Towards a meta-theory of accounting information systems. *Accounting, Organizations and Society*, 24, 317-331.
- Molanazari, M., Abdolkarimi, E. (2010), The effects of task uncertainty, decentralisation and accounting information systems characteristics on the accounting information systems performance in Tehran stock exchange: Three way interaction model. Paper Presented at the 2<sup>nd</sup> International Conference on Information and Financial Engineering, Chongqing, China.
- Nardi, P.M. (2003), *Doing Survey Research: A Guide to Quantitative Methods*. United State of America: Pearson Education, Inc.
- Ouda, H.A.G. (2003), Public sector accounting and budgeting reform: The main issues involved. Expert Consultative Meeting on Public Administration and Public Accounting Development, with Stress on Electronic Tools. Beirut: Auspices of the United Nations - Economic and Social Commission for Western Asia, (ESCWA).
- Parry, M. (2010), The four dimensions of public financial management. *International Journal on Governmental Financial Management*, 10(1), 98-106.
- Rodin-Brown, E. (2008), *Integrated Financial Management Information Systems: A Practical Guide*. USAID-Funded Fiscal Reform and Economic Governance Project.
- Sajady, H., Dastgir, M., Nejad, H.H. (2008), Evaluation of the effectiveness of accounting information systems. *International Journal of Information Science and Technology*, 6(2), 49-59.
- Saleh, Z., Pendlebury, M.W. (2006), Accruals accounting in government-developments in Malaysia. *Asia Pacific Business Review*, 12(4), 421-435.
- Salehi, M., Rostami, V., Mogadam, A. (2010), Usefulness of accounting information system in emerging economy: Empirical evidence of Iran. *International Journal of Economics and Finance*, 2(2), 186-195.
- Secretariat, C. (2005), Guidelines for public financial management reform. Available from: [http://www.thecommonwealth.org/shared\\_asp\\_files/uploadedfiles/D933B0A7-9ABB-4DF9-9903-A2584FFE5CCA\\_FMM05O2.pdf](http://www.thecommonwealth.org/shared_asp_files/uploadedfiles/D933B0A7-9ABB-4DF9-9903-A2584FFE5CCA_FMM05O2.pdf).
- Sekaran, U. (2003), *Research Methods for Business: A Skill Building Approach*. United States of America: John Wiley & Sons, Inc.
- Sekaran, U., Bougie, R. (2010), *Research Methods for Business*. United Kingdom: John Wiley & Sons Ltd.
- Shin, R.W. (1982), Computer utilization in public budgeting and financial management: Educational needs. *Southern Review of Public Administration*, 6(3), 339-346.
- Siddiquee, N.A. (2005), Public accountability in Malaysia: Challenges and critical concerns. *Journal of Public Administration*, 28, 107-129.
- Spathis, C. (2006), Enterprise systems implementation and accounting benefits. *Journal of Enterprise Information Management*, 19(2), 67-82.
- Spathis, C., Ananiadis, J. (2005), Assessing the benefits of using an enterprise system in accounting information and management. *Journal of Enterprise Information Management*, 18(2), 195-210.
- Stone, R.W., Good, D.J. (2002), A model of information technology impacts: An invariance analysis by executive position. *The Review of Business Information Systems*, 6(2), 17-27.
- Stone, R.W., Good, D.J., Baker-Eveleth, L. (2007), The impact of information technology on individual and firm marketing performance. *Behaviour and Information Technology*, 26(6), 465-482.
- Sun, H., Fricke, M. (2009), Re-examining the impact of system use on job performance from the perspective of adaptive system use. Paper Presented at the 15<sup>th</sup> Americas Conference on Information Systems (AMCIS), San Francisco, California.
- Surmen, Y., Dastan, A. (2007), The relationship between the historical development of the accounting information system and its applications and information technologies. Paper Presented at the Balkan Countries' 1<sup>st</sup> International Conference on Accounting and Auditing, Edirne, Turkey.
- Torkzadeh, G., Koufteros, X., Doll, W.J. (2005), Confirmatory factor analysis and factorial invariance of the impact of information technology instrument. *The International Journal of Management Science*, 33, 107-118.
- United Nation. (2003), Improving public sector effectiveness. Paper Presented at the United Nations Expert Group Meeting, Dublin, Ireland.
- Veerankutty, F. (2009), *Information Technology (IT) Related Auditing in Malaysian Public Sector: An Empirical Study of National Audit Department of Malaysia*. University of Malaya Kuala Lumpur, Malaysia.